

REMARKS

The Office Action dated February 26, 2007 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto. Claims 8-18 are currently pending in the application.

Claims 8 and 18 have been amended to more particularly point out and distinctly claim the subject matter of the invention. No new matter has been added and no new issues are raised which require further consideration or search. Claims 8-18 are respectfully submitted for consideration.

Claims 8-16 and 18 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Applicants respectfully submit that this rejection is rendered moot for the following reasons.

First, the Office Action stated that “the other end” recited in the last line of claim 8 lacks antecedent basis. Applicants have amended claim 8 to recite “another end” rather than “the other end.” As such, Applicants submit that this aspect of the rejection is rendered moot.

The Office Action further stated that the recitation of “the casing” in the last line of claim 8 is ambiguous because it is not clear whether the “motor casing” or the “reducer casing” are being referred to. Applicants have amended the last line of claim 8 to recite

“the reducer casing” rather than “the casing of the reducer.” Accordingly, it is made clear that the reducer casing is being referred to.

With respect to claim 18, the Office Action took the position that the recitation of “the ventilation passage” is indefinite, because it is not clear whether it is referring to the rotor ventilation passage or the ventilation passages in the mounting flanges. Applicants have amended claim 18 to recite “the ventilation passage in the rotor,” thereby making it clear that the rotor ventilation passage is being referred to.

Therefore, Applicants respectfully submit that the rejection under 35 U.S.C. §112, second paragraph, is rendered moot and should be withdrawn.

Claims 17 and 18 were rejected under 35 U.S.C. §102(b) as being anticipated by Christian (U.S. Patent No. 2,540,099). The rejection is respectfully traversed for the following reasons.

Claim 17, upon which claim 18 is dependent, recites a cooling mechanism for a motorized roller. The cooling mechanism for the motorized roller includes a roller body of the motorized roller, a motor disposed inside the roller body, the motor being housed in a motor casing, a reducer which is disposed inside the roller body and reduces the rotation of the motor, the reducer being housed in a reducer casing, and a rotor which is disposed inside the roller body, and connected with the reducer and the roller body to transmit power of the reducer to the roller body. A reaction force to the driving force of the roller body is able to be received, via the motor casing and the reducer casing, by an external member which fixes the motor casing and the reducer casing so that rotations of

the casings are prevented, and a ventilation passage is formed in the rotor in an axial direction. Mounting flanges that have a substantially circular plate shape and are capable of relative rotation with respect to the roller body are provided at both end sections of the roller body, and ventilation passages are formed in the mounting flanges in the axial direction.

As will be discussed below, Christian fails to disclose or suggest all of the elements of the claims, and therefore fail to provide the features discussed above.

Christian discloses a driven drum power terminal device operating as the driving terminal of a wide belt conveyor. The device includes a prime mover 1, a speed change device or gearbox 2, and the outer drum 3. The prime mover 1 and speed change device 2 are fixed non-rotatably within the rotatably supported drum. The drum includes an outer cylindrical shell 51, two end walls 22 and 23, and an intermediate wall 24. Walls 22 and 23 are provided by circular discs 61 secured by screws 62 to annular flanges 63 on the drum ends. As a result, Christian's driving mechanism, including the prime mover 1, is enclosed within the drum.

Applicants respectfully submit that Christian fails to disclose or suggest all of the elements of claim 17. Specifically, Applicants respectfully assert that Christian fails to disclose or suggest that "mounting flanges that have a substantially circular plate shape and are capable of relative rotation with respect to the roller body are provided at both end sections of the roller body, and ventilation passages are formed in the mounting flanges in the axial direction," as recited in claim 17. Nevertheless, the present Office

Action took the position that the walls 22, 23 disclosed in Christian correspond to the mounting flanges of the present invention. Applicants respectfully disagree for at least the following reasons.

According to an embodiment of the present invention, because the substantially circular plate shaped first and second mounting brackets 114 and 116 that are capable of relative rotation with respect to the roller body 112 are provided at both end sections 112a and 112b of the roller body 112, and because the ventilation holes 114e to 114h and 116e to 116h are formed in these mounting brackets 114 and 116 in the axial direction L2, the motorized roller 100 can be made more compact (particularly in the axial direction L2), the mounting strength can be improved, ventilation between the inside of the roller body 112 and the exterior becomes possible through the ventilation holes 114e to 114h and 116e to 116h, and a reduction in potential temperature increases inside the roller body 112 can be achieved (Specification, page 18, lines 10-23).

Christian, however, fails to disclose or suggest such a configuration where mounting flanges, having a substantially circular plate shape and which are capable of relative rotation with respect to the roller body, are provided at both end sections of the roller body. Christian merely discloses that walls 22 and 23 are provided by circular discs 61 secured by screws 62 to annular flanges 63 on the drum ends (Christian, Column 3, lines 12-14). Each of the walls 22 and 23 are apertured to permit forced air circulation through the drum (Christian, Column 4, lines 32-36). However, Christian does not disclose or suggest that the walls 22 and 23 have a substantially circular plate shape or

that they are capable of relative rotation with respect to the roller body. As such, Applicants submit that the walls of Christian do not correspond to the mounting flanges recited in claim 17.

Therefore, Christian fails to disclose or suggest that “mounting flanges that have a substantially circular plate shape and are capable of relative rotation with respect to the roller body are provided at both end sections of the roller body, and ventilation passages are formed in the mounting flanges in the axial direction,” as recited in claim 17.

Claim 18 is dependent upon claim 17. Thus, claim 18 should be allowed for at least its dependence upon claim 17, and for the specific limitations recited therein.

Claims 8-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over Christian in view of Mackmann (U.S. Patent No. 2,436,930). The Office Action took the position that Christian discloses all of the elements of the claims, with the exception of an air passage for guiding air in an axial direction from one end of the reducer to the other end being formed in an outer peripheral surface of the casing for the reducer. The Office Action then cites Mackmann as allegedly curing this deficiency in Christian. The rejection is respectfully traversed for the following reasons.

Claim 8, upon which claims 9-16 are dependent, recites a cooling mechanism for a motorized roller. The cooling mechanism for the motorized roller includes a roller body of the motorized roller, a motor disposed inside the roller body and housed in a motor casing, and a reducer which is disposed inside the roller body and reduces the rotation of the motor to transmit the reduced rotation to the roller body, the reducer is housed in a

reducer casing. A reaction force to the driving force of the roller body is able to be received, via the motor casing and the reducer casing, by an external member which fixes the motor casing and the reducer casing so that rotations of the casings are prevented, and an air passage for guiding air in an axial direction from one end of the reducer to the other end is formed in an outer peripheral surface of the casing for the reducer.

As will be discussed below, the combination of Christian and Mackmann fails to disclose or suggest all of the elements of the claims, and therefore fail to provide the features discussed above.

Christian is discussed above. Mackmann discloses a motor reducer unit comprising an elongated motor housing 31 open at both ends and carrying motor field windings wound on a core 32 which is supported on internal annular flanges 33. One end of the housing is semi-permanently closed by an end cover 34. The gear reducer unit includes a cylindrical casing 38 which is detachably supported in inwardly extending annular flanges 39 in the housing. Inlet of air from the closed end of the housing is provided by openings 47 in the end plate 34 discharging on the interior of the guard 45. At the opposite end of the housing, air circulation is provided by openings 48 formed in the flanges 39.

Applicants respectfully submit that the combination of Christian and Mackmann fails to disclose or suggest all of the elements of the claims. For example, the combination of Christian and Mackmann does not disclose or suggest "an air passage for guiding air in an axial direction from one end of the reducer to another end is formed in

an outer peripheral surface of the reducer casing," as recited in claim 8. The Office Action, as mentioned above, took the position that this limitation is disclosed by Mackmann. However, Applicants respectfully assert that neither Mackmann nor Christian discloses this limitation of the claims.

According to an embodiment of the claimed invention, a plurality of air passages 150a (152a, 153a, 154a) for guiding air in the axial direction L2 from one end of the reducer 140 to the other end are formed in the outer peripheral surface of the reducer casing 150 (152, 153, 154). Moreover, a plurality of air passages 133a (134a, 135a, 136a) are formed in the outer peripheral surface of the motor casing 133 (134, 135, 136). The air passages 133a are positioned substantially in-line with the air passages 150a formed in the outer peripheral surface of the reducer casing 150 and guide air in the axial direction L2 from one end of the motor 130 to the other end (Specification, page 14, line 19 – page 15, line 4, and Figure 3). As a result, air inside the roller body that has been heated by the heat generated by the motor and the reducer can be easily guided away from the casing of the reducer through the air passage, then, stagnation of the air around the vicinity of the reducer can be prevented, which can achieve a reduction in temperature increases inside the roller body. (Specification, page 6, line 22 – page 7, line 10).

Mackmann, on the other hand, does not disclose or suggest that the air passage is for guiding air in the space between the roller body and the reducer casing in an axial direction from one end of the reducer to the other end, or that the air passage is formed in

an outer peripheral surface of the casing for the reducer. Mackmann, as discussed above, only discloses that air circulation is provided by having air enter through openings 47 and/or 48. The air is used to cool the reducer unit and then exits through openings 46 (Mackmann, Column 3, lines 8-19). Therefore, according to Mackmann, no air passage is formed in an outer peripheral surface of the reducer casing. Rather, according to Mackmann, the air enters through the openings 47 and/or 48, circulates through the center of the reducer casing, and then exits through openings 46 (see Mackmann, Figure 1). In other words, Mackmann fails to disclose or suggest an air passage formed in an outer peripheral surface of the reducer casing. Christian, as acknowledged by the Office Action, also fails to disclose or suggest this limitation of the claims. Accordingly, the combination of Christian and Mackmann fails to disclose or suggest all of the elements of claim 8.

Claims 9-16 are dependent upon claim 8. Consequently, claims 9-16 should be allowed for at least their dependence upon claim 8, and for the specific limitations recited therein.

Applicants respectfully submit that Christian and Mackmann, whether viewed individually or combined, fail to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 8-18 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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